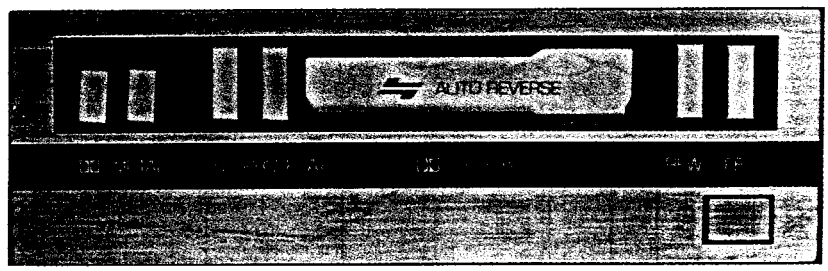
Jun. '85

# MITSUBISHI

# SERVICE MANUAL

## AUTO REVERSE CASSETTE DECK WITH EJECT AID DEVICE

MODEL : CX-55FCY-2
PARTS No. : MB435959




## ■ SPECIFICATIONS/FEATURES

### SPECIFICATIONS

- **Power supply:** 13.2V±2.4V negative ground
- **Current consumption:** 0.3A
- **Tape speed:** 4.76cm/set
- **Output level:** 45mV±3dB
- **Wow & flutter:** 0.15% (WRMS)
- **S/N ratio:** 65dB (DOLBY NR ON)
  55dB (DOLBY NR OFF)
- **Frequency response:** 40 to 15,000Hz (−3dB)
- **FF/REW time:** 120 seconds (C-60 tape)
- **Dimensions:** 160(W) x 50(H) x 135(D)mm
- **Weight:** 1.2kgs(2.64 lbs)

### FEATURES

- Auto reverse mechanism
- Feather-touch operation
- DOLBY NR system
- Tape selector for easier selection of metal or chrome tape
- Auto "pinch-off" tape protection mechanism
- Illuminated display and tape slot for night time driving
- Front panel coordinates in design with radio

**MITSUBISHI ELECTRIC EUROPE GMBH**
Brandenburger Straβe 40. 4030 Ratingen 1
Telefon (02102) 44089. Telex 8585070 med-d

**MITSUBISHI ELECTRIC(U.K.) LTD.**
Otterspool Way Watford, Herts WD2 8LD England
Telefon: Watford 40566/9. Telex 927908

## AN AID DEVICE FOR CASSETTE–EJECT

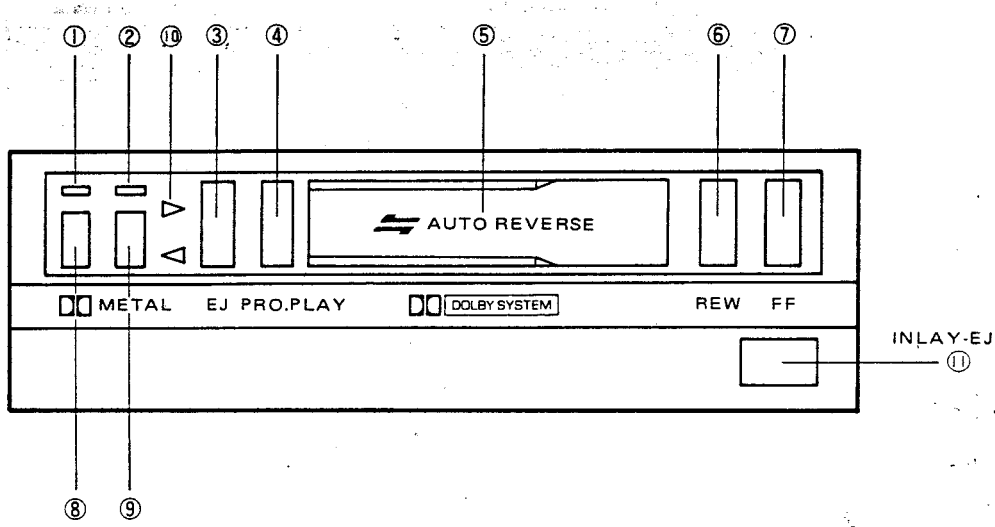
(In case of emergency)

This is a device for manually ejecting cassette, which aids the eject-function when the opration by the eject-button does not work enough to eject the cassette while playing the cassette.

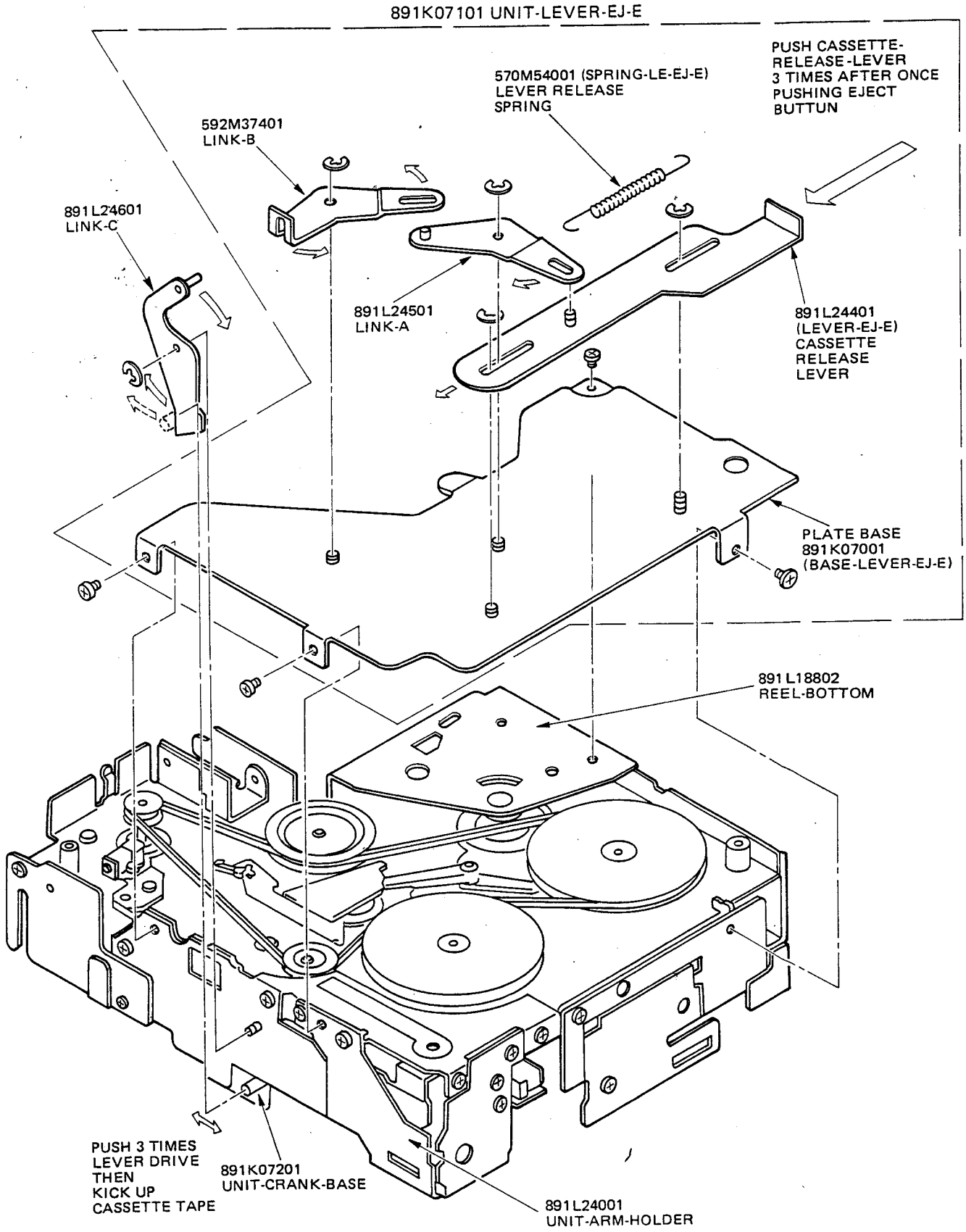
PROCEDURE :

(Referring to the Radio Operating Controller, take the following steps.)

1. Turn off the power supply to the car radio.
2. Push the eject button. ③
3. Take off the INLAY–EJ–COVER ⑪ located on the right side of the plate by finger at right or left hem. (Avoid using a hard screwdriver.)
4. Push the cassette-release-lever inwards 3 times with a screwdriver through the INLAY–EJ–HOLE.
5. The cassette will come out.
6. Enframe the INLAY–EJ–COVER ⑪ .



## CASSETTE RELEASE MECHANISM



## ELECTRICAL PARTSLIST

MODEL : CX-55FCY-2

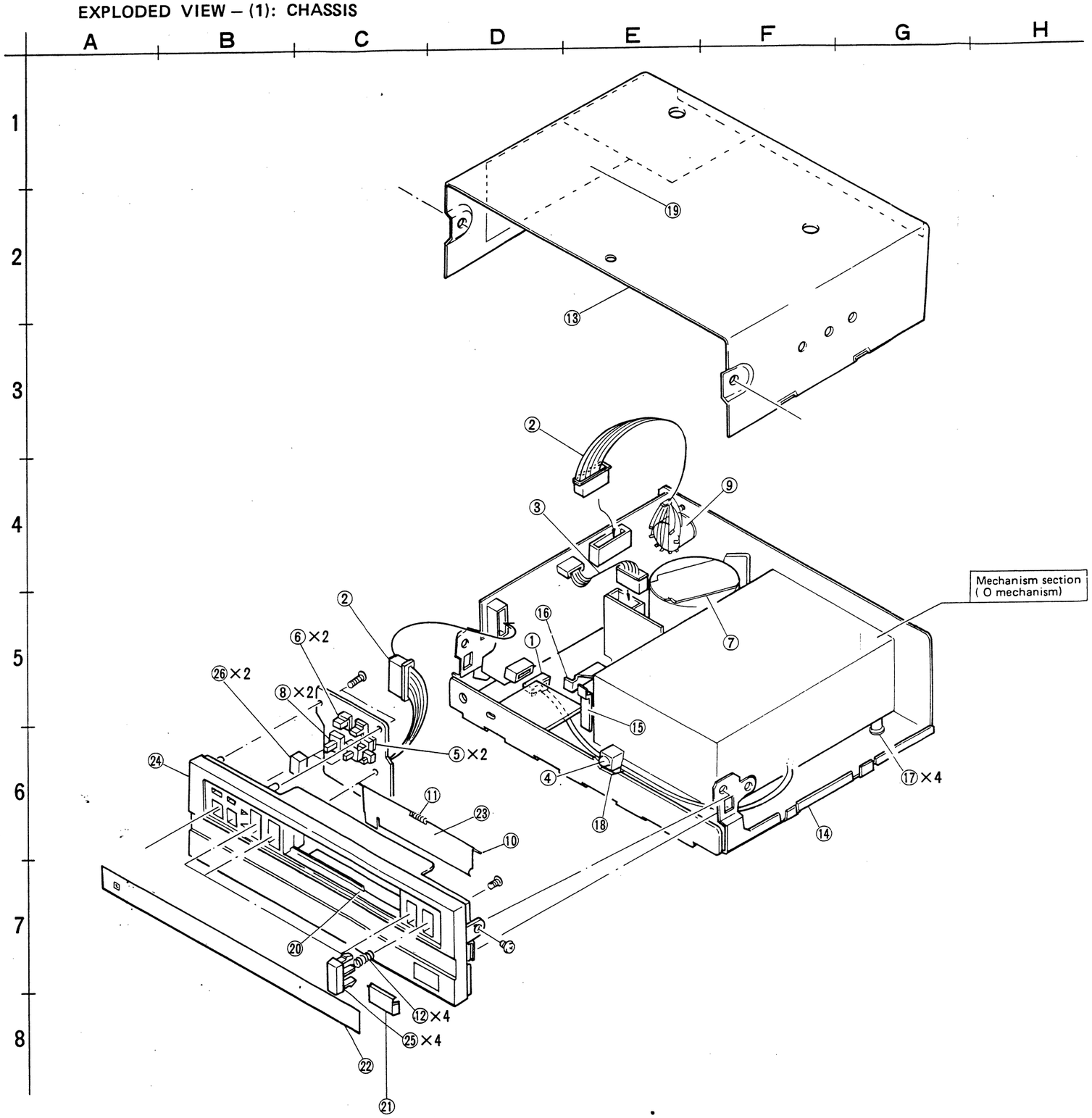
| Ref. No. | Part No. | Description |
|---|---|---|
| | RESISTORS AND CAPACITORS | |
| VR301,402 | 127M03202 | VR-SEMIFIXED 10K |
| | SEMICONDUCTORS | |
| Q701~703 | 260P26802 | TR 2SA1115E |
| Q705 | 260P31304 | TR 2SC1214-D |
| Q301,401 | 260P33804 | TR 2SC2603-E.F |
| Q704 | 260P33805 | TR 2SC2603G |
| Q302,402 | 260P43101 | TR 2SD655-F |
| D701 | 264M01301 | DIODE V06C/W03C |
| D321,322 | 264P19803 | LED GL-9PG6 |
| D703 | 264P221A2 | DIODE MZ308-B |
| D323,324 | 264P26403 | LED GL-9PG9 |
| IC301 | 267P30702 | IC EA9082 |
| IC302 | 267P31701 | IC NC8520 |
| D301,302,401, 702,704 | 269M01201 | DIODE 1S953/1S2076/1S2473 |
| | OTHERS | |
| LC305 | 242K07303 | LEAD-CONNECTOR-3P |
| LC301,302 | 242L39307 | LEAD-CONNECTOR-6P |
| LC701 | 242L47109 | LEAD-CONNECTOR-4P |
| PL1 | 253L04001 | LEAD-LAMP |
| | 288L02101 | MOTOR (WITH PULLEY) |
| S702 | 431L05401 | SW-SLIDE |
| S703 | 431L05501 | SW-SLIDE |
| S301,302 | 432L06402 | SW-PUSH |
| END | 435L02901 | SW-LEAF |
| S704,706, 707,708 | 435L03101 | SW-LEAF |
| S701 | 436L00701 | SW-MICRO |
| S709 | 436L00901 | SW-MICRO |
| | 449L00501 | SOCKET-MPX 7S |
| CN701 | 452D11104 | CONNECTOR-4P |
| CN302 | 452D11106 | CONNECTOR-6P |
| CN301 | 452M02301 | CONNECTOR-6P |
| CN305 | 452M02403 | CONNECTOR-3P |
| | 460P05101 | MAGNETEC-HEAD |
| MAG-C | 479L01805 | MAGNET |
| MAG-A | 479L01901 | MAGNET |
| MAG-B | 479L01902 | MAGNET |

## MECHANICAL PARTS LIST

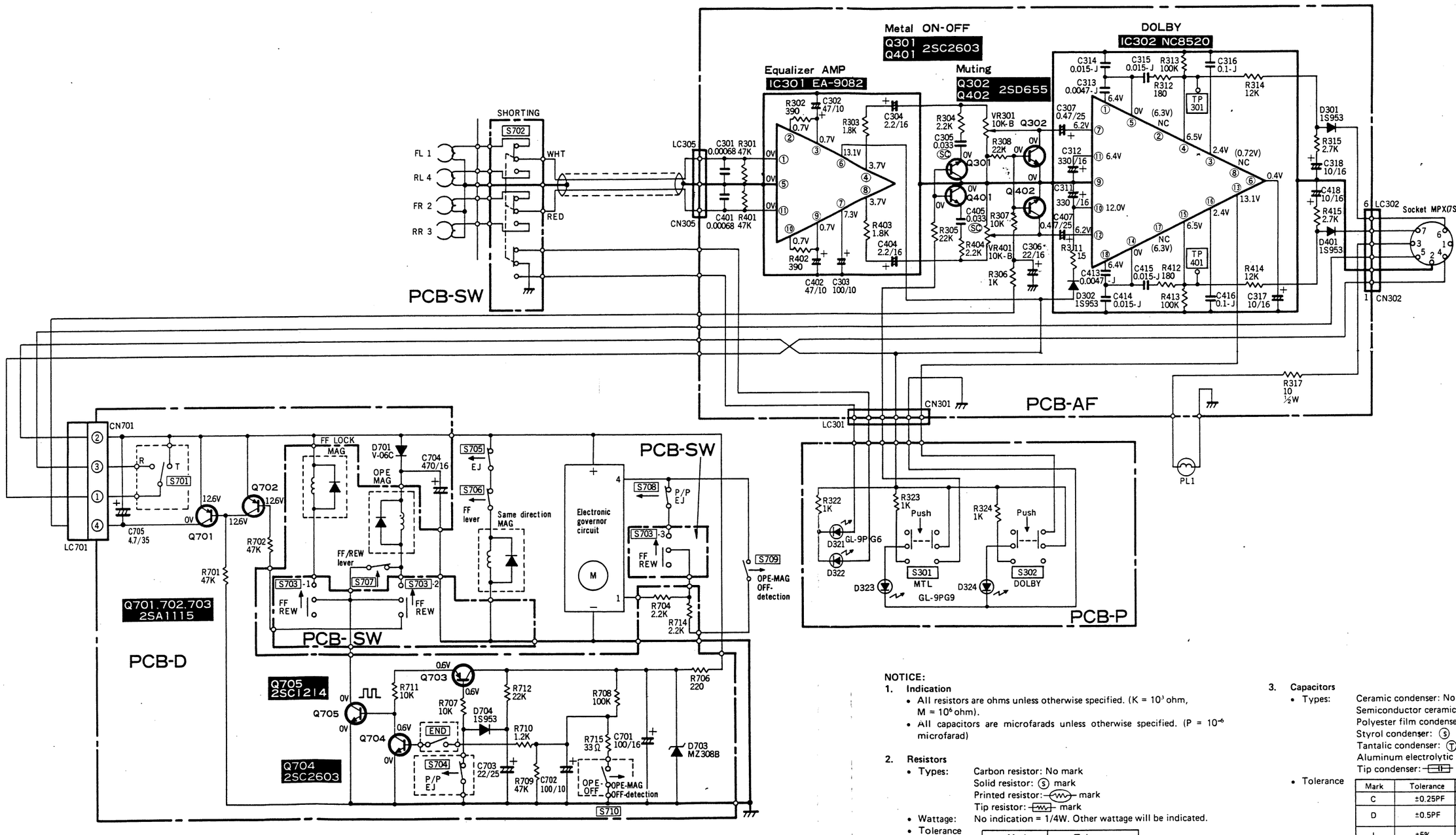
**Chassis**

| Ref. No. | Part No. | Description | Index |
|---|---|---|---|
| 1 | 242K07303 | LEAD-CONNECTOR-3S | D-5 |
| 2 | 242L39307 | LEAD-CONNECTOR-6S | C-4<br>D-3 |
| 3 | 242L47109 | LEAD-CONNECTOR-4S | D-4 |
| 4 | 253L04001 | LEAD-LAMP | D-6 |
| 5 | 264P19803 | LED ( ▲▼ ) GL-9PG6 | D-6 |
| 6 | 264P26403 | LED ( ■■ ) GL-9PG9 | B-5 |
| 7 | 288L02101 | MOTOR (WITH PULLEY) | F-5 |
| 8 | 432L06402 | SW-PUSH (DOLBY/METAL) | B-5 |
| 9 | 449L00501 | SOCKET-MPX (7S) | F-4 |
| 10 | 531M07202 | SHAFT-SHUTTER | D-6 |
| 11 | 570M36302 | SPRING-SHUTTER | D-6 |
| 12 | 570M48201 | SPRING-E | C-8 |
| 13 | 590K33301 | COVER | D-3 |
| 14 | 590K33404 | CHASSIS | F-6 |
| 15 | 592M09502 | LEVER-P | E-5 |
| 16 | 592M35701 | LEVER-E-2 | D-5 |
| 17 | 630M50802 | POST-D | G-6 |
| 18 | 641M33401 | HOLDER-LAMP | E-6 |
| 19 | 642L02101 | INSULATOR-C | E-2 |
| 20 | 642M19601 | COVER-P | C-7 |
| 21 | 702L17901 | INLAY-EJ | C-8 |
| 22 | 703L02103 | ORNAMENT | C-8 |
| 23 | 768L03905 | SHUTTER | D-6 |
| 24 | 963K11804 | ASSY-PANEL | A-6 |
| 25 | 704L29201 | BUTTON-FC | C-8 |
| 26 | 704M69601 | BUTTON-DC | B-5 |

## EXPLODED VIEW – (1): CHASSIS



# SCHEMATIC DIAGRAM




**Pin connection table**

| No. | Connection | |
|---|---|---|
| 1 | | |
| 2 | Grounding | − |
| 3 | ILL | + |
| 4 | ACC | + |
| 5 | Radio control | +B |
| 6 | Output (L) | + |
| 7 | Output (R) | + |
| | | |
| | | |

Socket MPX(7S)

**NOTICE:**

1. **Indication**
   - All resistors are ohms unless otherwise specified. (K = $10^3$ ohm, M = $10^6$ ohm).
   - All capacitors are microfarads unless otherwise specified. (P = $10^{-6}$ microfarad)

2. **Resistors**
   - Types: Carbon resistor: No mark
     Solid resistor: (S) mark
     Printed resistor: mark
     Tip resistor: mark
   - Wattage: No indication = 1/4W. Other wattage will be indicated.
   - Tolerance

| Mark | Tolerance |
|---|---|
| J | ±5% |
| K | ±10% |

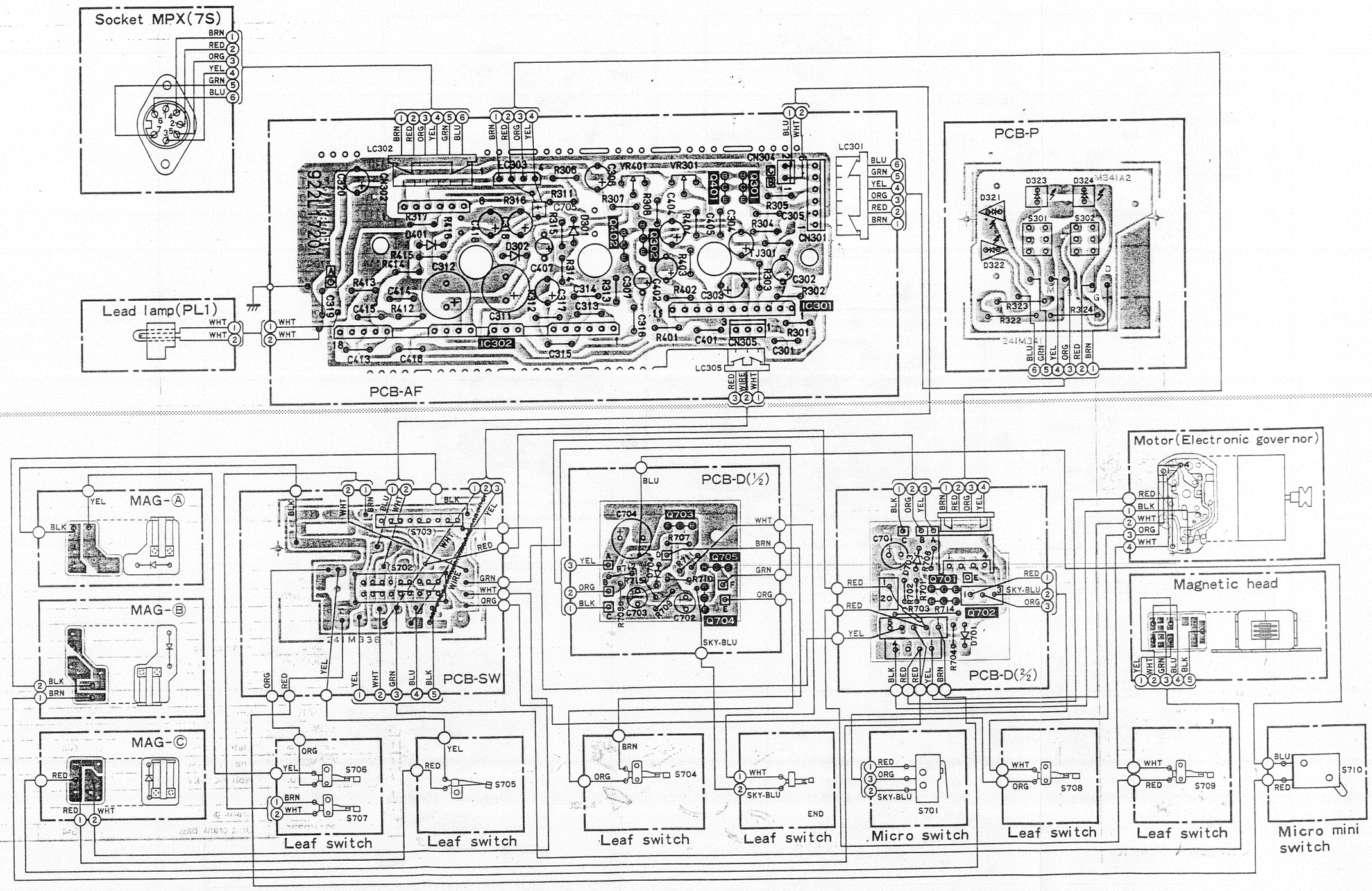
3. **Capacitors**
   - Types: Ceramic condenser: No mark
     Semiconductor ceramic condenser: (BC) mark
     Polyester film condenser: (P) mark
     Styrol condenser: (S) mark
     Tantalic condenser: (T) mark
     Aluminum electrolytic condenser: (Al) mark
     Tip condenser: mark
   - Tolerance

| Mark | Tolerance | Mark | Tolerance |
|---|---|---|---|
| C | ±0.25PF | M | ±20% |
| D | ±0.5PF | Z | +80% −20% |
| J | ±5% | No mark | +100% −0 |
| K | ±10% | | |

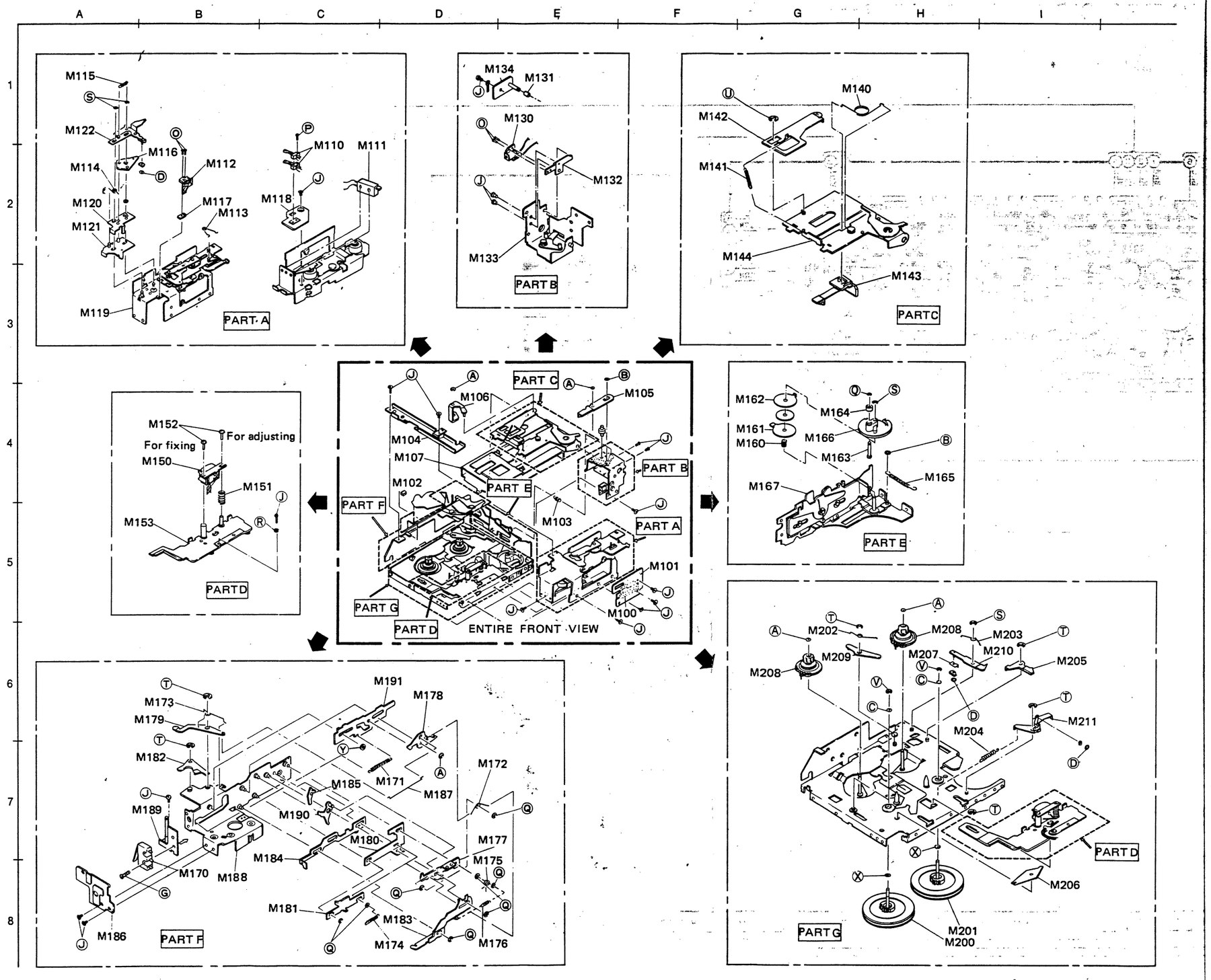
4. **Voltage Measurements**
   Voltage measurment made with D.C. voltmeter (20 KΩ/V DC) to chassis ground with no signal input (Source voltage 14.4V).

5. **This circuit is subject to change for improvement without notice.**

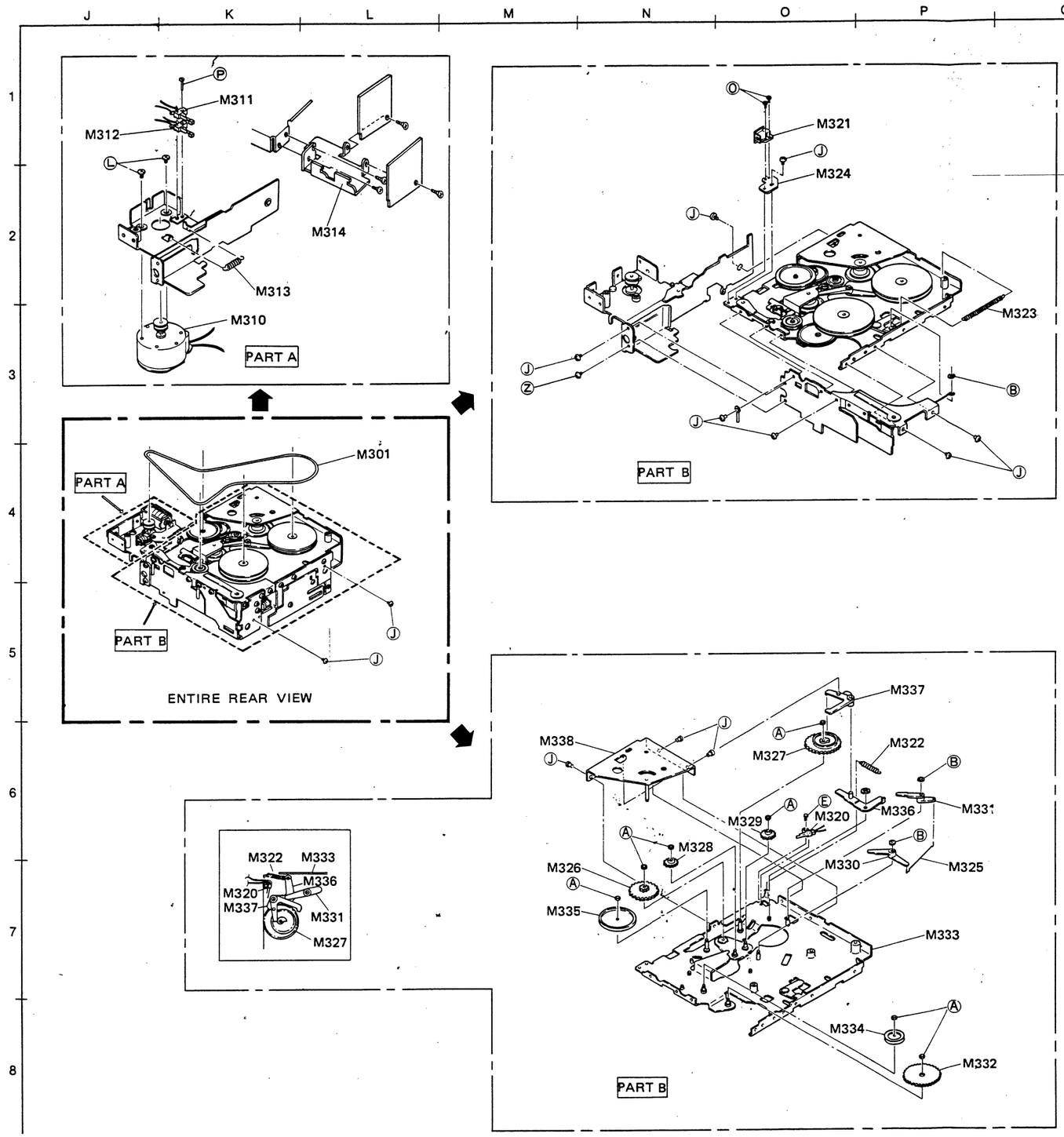
# PRINTED CIRCUIT BOARD(Pattern side)



## EXPLODED VIEW – (2): DECK (FRONT)



## EXPLODED VIEW – (1): DECK (REAR)




## 2) Parts List on Rear View

| Ref. No. | Part No. | Description | INdex |
|---|---|---|---|
| PARTS ON ENTIRE REAR VIEW | | | |
| M301 | 521M03702 | Belt | L-4 |
| PARTS AT PART A | | | |
| M310 | 288L02101 | Motor (with pulley) | K-3 |
| M311 | 435L03002 | Leaf switch | K-1 |
| M312 | 435L03101 | Leaf switch | J-1 |
| M313 | 570M48401 | Spring/main switch | K-3 |
| M314 | 591L13601 | Holder PWB-NE | L-2 |
| PARTS AT PART B | | | |
| M320 | 435L02901 | Leaf switch | O-6 |
| M321 | 479L01801 | Magnet-AA | O-1 |
| M322 | 570M46101 | Spring sensor | P-6 |
| M323 | 570M46401 | Spring LI-head | Q-3 |
| M324 | 592M14701 | Seat magnet | P-2 |
| M325 | 637M02401 | Arm bar L | P-7 |
| M326 | 641L05701 | Center gear | M-7 |
| M327 | 641L05801 | Cam gear | O-6 |
| M328 | 641M32801 | Idler gear L | N-6 |
| M329 | 641M32901 | Idler gear R | O-6 |
| M330 | 641M33101 | Arm L | O-7 |
| M331 | 641M33201 | Arm R | P-6 |
| M332 | 641M36101 | Gear FW | P-8 |
| M333 | 891J00505 | Unit main base | P-7 |
| M334 | 891L22101 | Idler pulley | P-8 |
| M335 | 891L17501 | Gear pulley | N-7 |
| M336 | 891L18601 | Plate SW-CH-PM | P-6 |
| M337 | 891M14001 | Sensor link | P-5 |
| M338 | 891L18801 | Reel bottom | N-6 |
| SCREWS/WASHERS | | | |
| A | 640M04301 | Cut washer P (I.D. ϕ1.25, O.D. ϕ3.2, 0.25t) | |
| B | 640M05201 | Cut washer P (I.D. ϕ2.1, O.D. ϕ4.0, 0.25t) | |
| C | 640M05301 | Washer P (I.D. ϕ2.05, O.D. ϕ3.5, 0.5t) | |
| D | 640M05401 | Cut washer P (I.D. ϕ1.25, O.D. ϕ2.5, 0.25t) | |
| E | 650P200Q3 | Pan head screw (M2x3) | |
| F | 650P200Q4 | Pan head screw (M2x4) | |
| G | 650P200Q8 | Pan head screw (M2x8) | |
| H | 650P300P4 | Pan head screw (M3x4) | |
| I | 650P300P6 | Pan head screw (M3x6) | |
| J | 669L02701 | Binding screw (M2x3) | |
| K | 669L02702 | Binding screw (M2x4) | |
| L | 669L02704 | Binding screw (M2.6x3) | |
| M | 669M07001 | Long lock screw (M2x5.3) | |
| N | 669M07502 | Tapping screw (pan head M2x8) | |
| O | 669M10001 | Magnet screw (M1.4x4) | |
| P | 669M10103 | Magnet screw SW (M1.7x6) | |
| Q | 685C00203 | E ring (E1.5) | |
| R | 680P120W1 | Washer (for M2) | |
| S | 685C00204 | E ring (E2) | |
| T | 685C00205 | E ring (E2.5) | |
| U | 685L02001 | E ring (TE-9) | |
| V | 685L02002 | E ring (TE-5) | |
| X | 640M00203 | Washer P (I.D. ϕ2.1, O.D. ϕ4.0, 0.13t) | |
| Y | 640M04501 | Cut washer P (I.D. ϕ2.6, O.D. ϕ5.2, 0.25t) | |

## MECHANICAL PARTS: DECK SECTION

### 1) Parts List on Each Front Part

| Ref. No. | Part No. | Description | Index | | Ref. No. | Part No. | Description | Index |
|---|---|---|---|---|---|---|---|---|
| PARTS ON ENTIRE FRONT PART | | | | | PARTS AT PART F | | | |
| M100 | 431L05401 | Slide switch | F-6 | | M170 | 436L00701 | Micro switch | B-8 |
| M101 | 431L05501 | " | F-5 | | M171 | 570M46302 | Cam spring-PL | D-7 |
| M102 | 550M08901 | Rubber damper 0 | D-5 | | M172 | 570M47301 | Cam spring lever EJ | E-7 |
| M103 | 570M49702 | Spring trigger EJ | E-5 | | M173 | 570M47402 | Pack spring-TR | B-6 |
| M104 | 591L06901 | Bridge | D-4 | | | | | |
| M105 | 592M07601 | Plate slide switch | F-4 | | M175 | 570M49401 | Pack spring LE-CH | E-8 |
| M106 | 891L14702 | Link main switch | D-4 | | M176 | 570M49803 | Spring connect | E-8 |
| M107 | 891L22002 | Unit holder EV | D-4 | | M177 | 591L16001 | Lever EJ-2 | E-7 |
| PARTS AT PART A | | | | | M178 | 591L16201 | Trigger cam-2 | D-6 |
| M110 | 435L03101 | Leaf switch | C-2 | | M179 | 592M05702 | Trigger pack | B-6 |
| M111 | 436L00901 | Micro mini switch | C-2 | | M180 | 592M07001 | Lever CH-N | C-7 |
| M112 | 479L01803 | Magnet-AA | B-2 | | | | | C-8 |
| M113 | 570M45401 | Spring PL-B-D | B-2 | | M182 | 592M15001 | Link cam plate | B-7 |
| M114 | 570M45801 | Spring FF | A-2 | | M183 | 592M24201 | Connect-2 | D-8 |
| M115 | 570M47101 | Spring ICHA | A-1 | | M184 | 592M24301 | Plate switch opener-2 | C-8 |
| M116 | 591L05701 | Plate selector | B-2 | | M185 | 592M24501 | Locker CH-2 | C-7 |
| M117 | 592M05401 | Spacer MAG-KAI | B-2 | | M186 | 592M29201 | Side base SAI | A-8 |
| M118 | 592M08201 | Holder switch FF | C-2 | | M187 | 637M02101 | Locker trigger cam | D-7 |
| M119 | 891K06205 | Unit lever control | A-3 | | M188 | 891K05605 | Side base | C-8 |
| M120 | 891L19001 | Lever FF | A-2 | | M189 | 891L14102 | Main switch holder | B-7 |
| M121 | 891L19101 | Lever REW | A-2 | | M190 | 891L21601 | Locker EJ-2 | C-7 |
| M122 | 891L22301 | Plate ICAA-KAI | A-1 | | M191 | 891L21701 | Cam plate-2 | D-6 |
| PARTS AT PART B | | | | | PARTS AT PART G | | | |
| M130 | 479L01902 | Magnet-AA | E-1 | | M200 | 524L01401 | Flywheel | H-8 |
| M131 | 550M09301 | Stopper OTO cam | E-1 | | M201 | 524L01402 | Flywheel | I-8 |
| M132 | 592M29001 | Magnet holder | E-2 | | M202 | 570M45501 | Spring eject-M | G-6 |
| M133 | 891L24001 | Unit arm holder | E-3 | | M203 | 570M45702 | Spring LO-FF | I-6 |
| M134 | 891L23001 | Holder-OTO | E-1 | | M204 | 570M47003 | Spring trigger | H-6 |
| PARTS AT PART C | | | | | M205 | 592M06602 | Lock eject | I-6 |
| M140 | 570M47602 | Spring pack | H-1 | | M206 | 592M07101 | Link CH-ID | I-8 |
| M141 | 570M52001 | Spring main switch | F-2 | | M207 | 592M29101 | Magnet stopper | H-6 |
| M142 | 592M06902 | Plate main switch | F-1 | | M208 | 891K05201 | Reel rest | H-6 |
| M143 | 641L08701 | Pack slider | H-3 | | M209 | 891L18101 | Link eject-M | G-6 |
| M144 | 891K05403 | Elevator arm | G-3 | | M210 | 891L22801 | Lock FF | I-6 |
| PARTS AT PART D | | | | | M211 | 891L23101 | Trigger CR-NEW | I-6 |
| M150 | 460P05101 | Head | B-4 | | | | | |
| M151 | 570M34701 | Head spring | C-4 | | | | | |
| M152 | 669M07001 | Head adjust screw | B-4 | | | | | |
| M153 | 891K05301 | Base head | B-5 | | | | | |
| PARTS AT PART E | | | | | | | | |
| M160 | 570M49503 | Spring-OTO | G-4 | | | | | |
| M161 | 592M14201 | Plate clutch-ST | G-4 | | | | | |
| M162 | 592M14301 | Plate clutch-GE | G-4 | | | | | |
| M163 | 630M53901 | Shaft-CR-KAI | G-4 | | | | | |
| M164 | 630M54001 | Roller-CR-KAI | G-4 | | | | | |
| M165 | | | H-4 | | | | | |
| M166 | 641L08601 | Crank gear | G-4 | | | | | |
| M167 | 891K07201 | Unit crank base | G-4 | | | | | |